PARKING

AFFECTED ENVIRONMENT

The study area for this analysis includes the portion of Downtown Seattle bordered by Denny Way on the north, I-5 on the east, Yesler Way on the south and Alaskan Way on the west, omitting Pioneer Square and the International District. This study generally characterizes the area south of Olive Way as part of the Commercial Core neighborhood, and areas north of Olive Way (and Stewart Street west of 3rd Avenue) as the Denny Triangle and Belltown neighborhoods.

Parking Supply and Utilization

OFF-STREET PARKING SUPPLY

Sources for off-street parking supply information include the 1999 PSRC *Parking Inventory for Seattle and Bellevue,* 2002 PSRC *Parking Inventory for the Central Puget Sound Region,* and supplemental data from the City of Seattle. In 1999, the Downtown EIS study area contained roughly 48,000 off-street parking spaces in 540 lots and garages. The types of spaces were approximately as follows:

- 38,000 spaces, general public paid parking
- 3,200 spaces, residential parking
- 5,600 spaces, employee parking
- 1,000 spaces, short-term free parking

As of 1999, approximately 19,220 parking spaces, or about 40 percent of the total inventory, were located north of Olive Way, while approximately 28,000 parking spaces (60 percent of the total) were located south of Olive Way. An additional 700 parking spaces were located in unspecified newer developments throughout the study area. The data indicate that parking facilities in the commercial core area south of Olive Way tend to be larger than facilities north of Olive Way. However, there are a greater number of off-street facilities (likely smaller surface parking lots) in areas north of Olive Way.

Data in the 2002 *Inventory* suggest that overall parking supply increased by approximately 3,000 parking spaces in the EIS study area since 1999, representing a 4-6% increase to approximately 50,000 total parking spaces. Due to a change in methodology in the 2002 *Inventory,* trends in types of parking since 1999 are not interpreted for the EIS study area.

OFF-STREET PARKING UTILIZATION

Average weekday utilization of off-street parking is available from 1999 PSRC data for the study area as a whole and for areas north and south of Olive Way (see Table 58). Average weekday morning parking utilization for the entire study area in 1999 was approximately 81 percent, and average afternoon parking utilization was approximately 77 percent. The subarea data indicate that off-street parking in areas south of Olive Way were slightly more occupied on average than areas north of Olive Way. This is generally consistent with the greater employment density and commercial activity in the commercial core area. These parking utilization rates indicate that a modest amount of off-street parking capacity is available on an average day, if the user is willing to pay. Parking rates are generally highest in the central part of the commercial core, easing gradually with greater distance to the north and south.

The 2002 PSRC data indicate that occupancy rates have dropped noticeably since 1999. In the entire PSRC Downtown study area, average occupancy dropped about 15% to about 63% in 2002. Only the waterfront vicinity experienced a slight increase in average occupancy. The overall drop in average occupancy could be due to a combination of increased parking supply and the effects of the economic downturn.

Table 58
Average Weekday Off-Street Parking Utilization, 1999

	Max. Capacity (see note)	Average Weekday Utilization			
		Morning (9-11:30 am)		Afternoon (1-3:30 pm)	
Total Study Area	47,230	38,380	*81%*	36,450	*77%*
N/of Stewart/Olive	19,220	15,090	*79%*	14,545	*76%*
S/of Stewart/Olive	28,010	23,290	*83%*	21,905	*78%*

Source: PSRC data compiled by Parsons Brinckerhoff.

Note: The maximum capacity for the total study area (47,230) does not include 700 parking spaces at new developments. Utilization data was not available for parking at these new developments.

Historical Trends in Parking Utilization, Supply, and Price

The PSRC's inventories of off-street parking in Downtown Seattle include a count of total parking stalls, occupancy and cost. Table 59 below summarizes the 1999 parking information for Downtown Seattle.

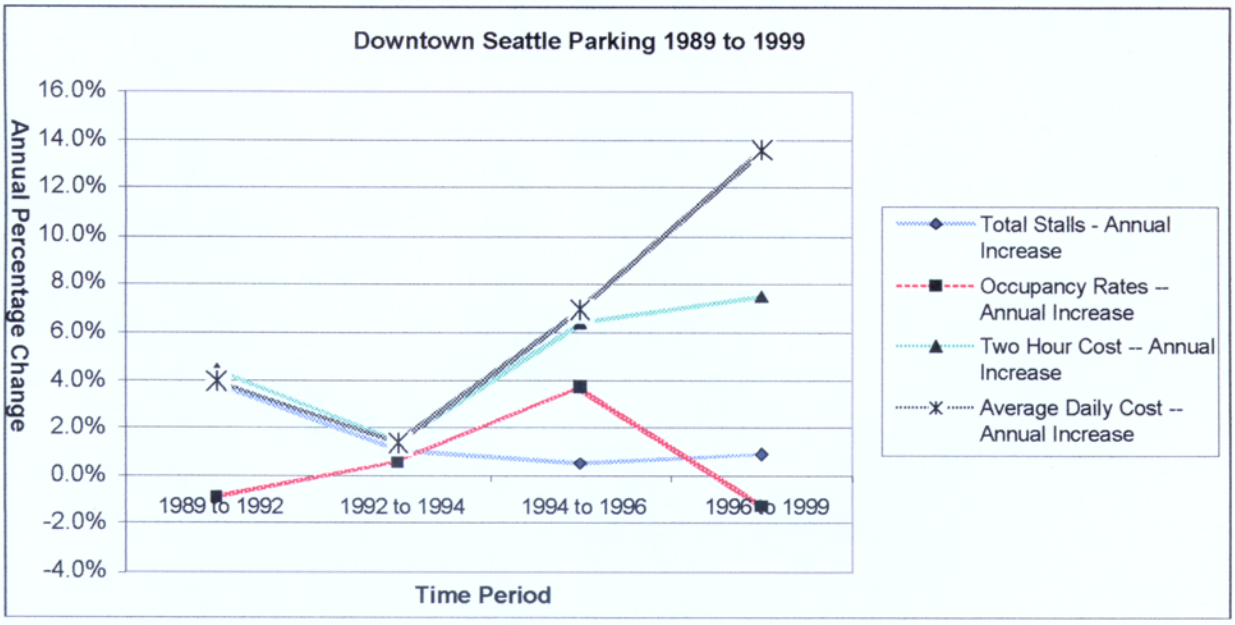
The relationships between parking supply, demand (represented as occupancy) and cost are complex. As shown in Table 59, from 1989 to 1999, the cost of parking increased faster than the demand or supply of parking changed. Between 1989 and 1999, parking supply increased by an annual average of 1.8%. During this same time period, the average daily cost increased by an annual average of 6.8%. The demand, expressed as occupancy, has at times increased, and at other times decreased. It decreased between 1989 and 1992, possibly because of an increase in parking supply during this same period of more than 5,000 spaces. As shown in Figure 47, occupancy decreased between 1996 and 1999. During this period the cost of daily parking jumped considerably, while the supply of parking increased only modestly. Parking supply increased by only about 900 spaces, but the daily cost of parking increased by about $4.50, or over 13 percent. This suggests that between 1996 and 1999, the demand for parking decreased partially because it became too expensive for some to park.

As of 2002, total stalls in PSRC's Downtown study area (including Pioneer Square and the International District) increased to approximately 58,538 stalls, representing a slightly higher rate of growth in parking supply than in past years. Between 1999 and 2002, the average cost for two-hour parking rose about 5% annually to $7.20, mirroring the past trend. However, the average cost for daily parking remained nearly unchanged for the past three years, at $14.52. Over time, market forces will continue to influence the supply of parking, the demand for it, and the cost. More detailed information about parking inventories can be found at the PSRC website, (www.psrc.org).

Table 59
Summary of Parking in Downtown Seattle, 1989–1999

Parking Data	1989	1992	1994	1996	1999	Avg. Annual % Change
Total Stalls	45,389	50,863	52,596	53,164	54,063	
Total Stalls -- Annual Percent Change	--	3.9%	1.1%	0.5%	0.9%	1.8%
Occupancy Rates	75.4%	73.3%	74.6%	80.3%	78.2%	
Occupancy Rates -- Annual Percent Change	--	-0.9%	0.6%	3.7%	-1.3%	0.4%
Two Hour Cost	$3.76	$4.28	$4.41	$4.99	$6.20	
Two Hour Cost -- Annual Percent Change	--	4.4%	1.5%	6.4%	7.5%	5.1%
Average Daily Cost	$7.45	$8.37	$8.60	$9.83	$14.39	
Average Daily Cost -- Annual Percent Change	--	4.0%	1.4%	6.9%	13.6%	6.8%

Figure 47
Summary of Parking Changes in Downtown Seattle, 1989–1999



On-Street Parking Supply

Although much of the Downtown study area's on-street parking supply primarily consists of parallel curb parking controlled by parking meters, the different subareas have different mixes of on-street parking resources, as described below.

Commercial Core (south of Olive Way)
Office core and retail core vicinity

- Metered parallel parking typically present on east-west streets, but more limited on portions of the north-south avenues such as 3rd, 4th, 5th and 1st Avenues. Typical metering is 2-hours, with some meters 30-minutes or less.

- Commercial vehicle parking zones and pickup/drop-off zones
- Selected areas reserved for government vehicles near public facilities
- Limited carpool parking on some blocks, primarily in peripheral areas
- Curb parking frequently interrupted by bus stop zones and curb cuts

Western Avenue vicinity

- Metered parallel parking in a majority of locations, 2-hour and short-term
- Metered angle parking beneath adjacent Alaskan Way Viaduct
- Commercial vehicle parking zones and pickup/drop-off zones

Belltown

- Metered parallel parking in majority of area, majority with 2-hour term

Denny Triangle (north of Olive Way)

- Metered parallel parking in majority of area, majority with 2-hour term
- Limited number of streets with no curb parking
- Limited carpool parking on a few blocks, primarily in northern vicinity
- Angled parking available in some non-arterial blocks
- Free short-term curb parking available
- Curb parking occasionally interrupted by bus stop zones and curb cuts
- Bus layover zones defined in a few blocks

Nearby Areas Outside Denny Triangle

South Lake Union vicinity

- Other than Denny and Valley, most streets offer plenty of parking
- Most parking is free parallel parking with a time limit of 2 hours or no time limit at all.
- Metered parking is mainly limited to 2 hours.
- In the Seattle Times area, metered parking is limited to 15 minutes.
- In the Denny/Harrison/Westlake area, there is a mix of angled parking with parallel, with a couple of blocks limiting parking to 4 hours
- Commercial vehicle parking zones and pickup/drop-off zones
- Curb parking is frequently interrupted by bus stop zones and curb cuts

On-street parking utilization data from 1999 are available for portions of the Belltown and Denny Triangle neighborhoods, but not the commercial core. Table 60 describes the 1999 average weekday and peak hour on-street parking utilization for sampled portions of those neighborhoods, with a comparison to the Pike-Pine neighborhood, adjacent and east of Downtown. The 1999 peak hour on-street parking utilization in Belltown was approximately 87 percent, considerably higher than the Denny Triangle's peak hour utilization of approximately 71 percent. The average parking utilization for both neighborhoods was approximately the same at 61-62 percent.[1] In an everyday operational sense, on-street parking is generally perceived to be near capacity when rates reach 80 to 85 percent. The perception of low parking availability at these rates can occur because, while turnover may be relatively high, the available spaces are dispersed infrequently within the entire street network, making them difficult to find. The somewhat lower rate of utilization in the Denny Triangle may reflect the tendency for lower parking utilization in peripheral locations and greater utilization closer to the retail core and commercial core.

[1] These utilization figures are based on a sample of the on-street parking inventory, including 210 spaces in Denny Triangle and 360 spaces in the Belltown neighborhood.

As a comparison, the Pike-Pine neighborhood adjacent to Downtown had an average utilization of 84 percent and a peak hour utilization of 91 percent in 1999, higher than both of the studied Downtown neighborhoods. This high utilization was likely due to the combination of dense residential use and growing commercial uses in that neighborhood.

Table 60
On-Street Parking Utilization in Selected Neighborhoods, 1999

	On-Street	
Sub-Area	**Average Utilization**	**Peak Hour Utilization**
Denny Triangle	*61%*	*71%*
Belltown	*62%*	*87%*
Pike-Pine	*84%*	*91%*

Source: PSRC and City of Seattle data compiled by Parsons Brinckerhoff.

A considerable amount of on-street parking is available in or near the south end of the study area, serving Pioneer Square, the International District, and the baseball and football stadiums. Within a ten-minute walk of the stadiums (about 5 or 6 blocks largely in the Pioneer Square and International District areas), approximately 1,830 on-street parking spaces are available.[2]

IMPACTS

Alternative 4 – No Action

Future projected growth and redevelopment in the Downtown study area will result in changes to parking supply and demand conditions, with or without any changes to zoning. This discussion first addresses conditions in 2020 for Alternative 4 - the No Action Alternative.

OFF-STREET PARKING

Future residential and employment growth throughout the study area would increase overall demand for parking. Table 61 compares predicted parking supply and demand conditions in 2020 for all of the alternatives. Parking supply estimates in Table 61 assume that minimum parking requirements for commercial uses would be met, and that residential development (which has no minimum parking requirement) would provide 0.63 parking spaces per residential unit[3].

As shown in Table 61, the predicted amount of off-street parking supply provided with future development would be approximately 16,991 spaces, including approximately 12,200 commercial (e.g., office/retail) parking spaces and approximately 4,800 residential spaces. Since the commercial parking calculations are based on minimum requirements, they may be lower than the amount actually provided with future development. The residential parking calculation could also be low, at 0.63 parking spaces per residential unit (based on the most current census data available for vehicle ownership per household in Downtown Seattle). Residential developers could provide more parking. If one parking space per

[2] Source: SR 519 Operational Analysis Team-*SR 519 - Operational Analysis Weekday Event*, May 1998.
[3] The value 0.63 is a low-end estimate based on 1990 census data for auto ownership per household in Downtown Seattle census tracts.

residential unit is provided for all future residential development, the residential parking supply would be approximately 2,800 spaces greater than shown in Table 61.

Table 61 shows parking demands for 2020 under two scenarios: one with "moderate" implementation of TDM measures, and one with more aggressive implementation of TDM measures. The 2020 estimated parking demand with moderate TDM is for approximately 23,837 spaces, while estimated parking demand with more aggressive TDM is for approximately 19,598 spaces. This suggests that future development could generate more parking demand than the minimum supply provided, by approximately 2,600 to 6,850 spaces. However, developers could choose to provide more than the minimum parking, if market conditions warrant.

Future development under Alternative 4 would displace approximately 7,550 existing off-street parking spaces by 2020, of which approximately one-half would be from existing principal-use parking lots/garages and one-half would be from parking that is accessory to other land uses. A large majority of the displaced off-street parking will be concentrated into three areas Downtown (see Figure 48). In Area 1 (between 9th Avenue and 6th Avenue, from Pine Street to Denny Way) approximately 1,900 parking spaces from lots and garages are likely to be displaced by future development. In Area 2 (from Lenora Street to Stewart Street, between 5th Avenue and 1st Avenue), approximately 373 parking spaces from lots or garages are likely to be displaced by future development. In Area 3 (one block between 4th and 5th Avenues, Seneca and Spring Streets), a 700-space parking garage is projected to be displaced by future development.

Table 61
Parking Supply and Demand Changes, by Alternative

2020 PARKING SUPPLY				
	Alt. 1	**Alt. 2**	**Alt. 3**	**Alt. 4**
Parking Spaces Displaced From Principal-Use Parking Lots/Garages	3,481	3,481	3,661	3,775
Other Displaced Parking (accessory to other existing uses)	3,656	3,656	3,656	3,774
Total Displaced	7,137	7,137	7,317	7,549
Parking Spaces Added by Future Comm. Development (minimum req.)	12,357	12,178	12,201	12,187
Parking Spaces Added by Residen-tial Development (assumption)	4,648	4,811	4,696	4,804
Total Added	17,005	16,989	16,897	16,991
2020 PARKING DEMAND (with "moderate" TDM measures)				
	Alt. 1	**Alt. 2**	**Alt. 3**	**Alt. 4**
Parking Spaces to Meet Demand				
Commercial Parking	19,113	18,942	18,983	19,034
Residential Parking	4,648	4,811	4,696	4,803
Total Demand	23,762	23,752	23,678	23,837
2020 PARKING DEMAND (with more aggressive TDM measures)				
Parking Spaces to Meet Demand				
Commercial Parking	14,857	14,723	14,755	14,795
Residential Parking	4,648	4,811	4,696	4,803
Total Demand	19,505	19,534	19,451	19,598

Source: Parsons Brinckerhoff, 2002

One consequence of parking demand unmet by off-street parking supply would be increased demand for other off-street and on-street parking resources. Competition would likely increase for on-street parking in a greater portion of the study area, and prices for off-street parking could increase. Higher parking prices could potentially affect shoppers' interest in patronizing Downtown businesses, but detailed analysis of this topic is beyond the scope of this EIS. The City could consider adjusting its minimum parking requirements to increase the supply of parking provided with future redevelopment. However, given City policies to promote alternative transportation modes, a higher parking requirement is not likely to be a City priority.

ON-STREET PARKING

As noted above, increased overall parking demand from future development would likely lead to increased competition for on-street parking resources. This trend would be gradual and occur in response to the amount of additional development in a particular area. However, given that the largest concentration of future development would occur in the Denny Triangle neighborhood, the increased competition would most strongly occur in the Denny Triangle and nearby surrounding areas. More specifically, the areas most impacted by increased competition for on-street parking are the same three areas shown in Figure 48.

In addition, as future development occurs, some displacement of on-street parking resources would likely occur due to the need for garage access points and possibly additional commercial vehicle parking spaces or other specialized types of parking or curb uses.

Alternative 1 – High End Height and Density Increase

OFF-STREET PARKING

Future residential and employment growth throughout the study area would increase overall demand for parking. As shown in Table 61, the predicted amount of off-street parking supply provided with future development would be approximately 17,005 spaces, including approximately 12,357 commercial (e.g., office/retail) parking spaces and approximately 4,648 residential spaces. This would be nearly the same parking supply as under Alternative 4 – the No Action Alternative.

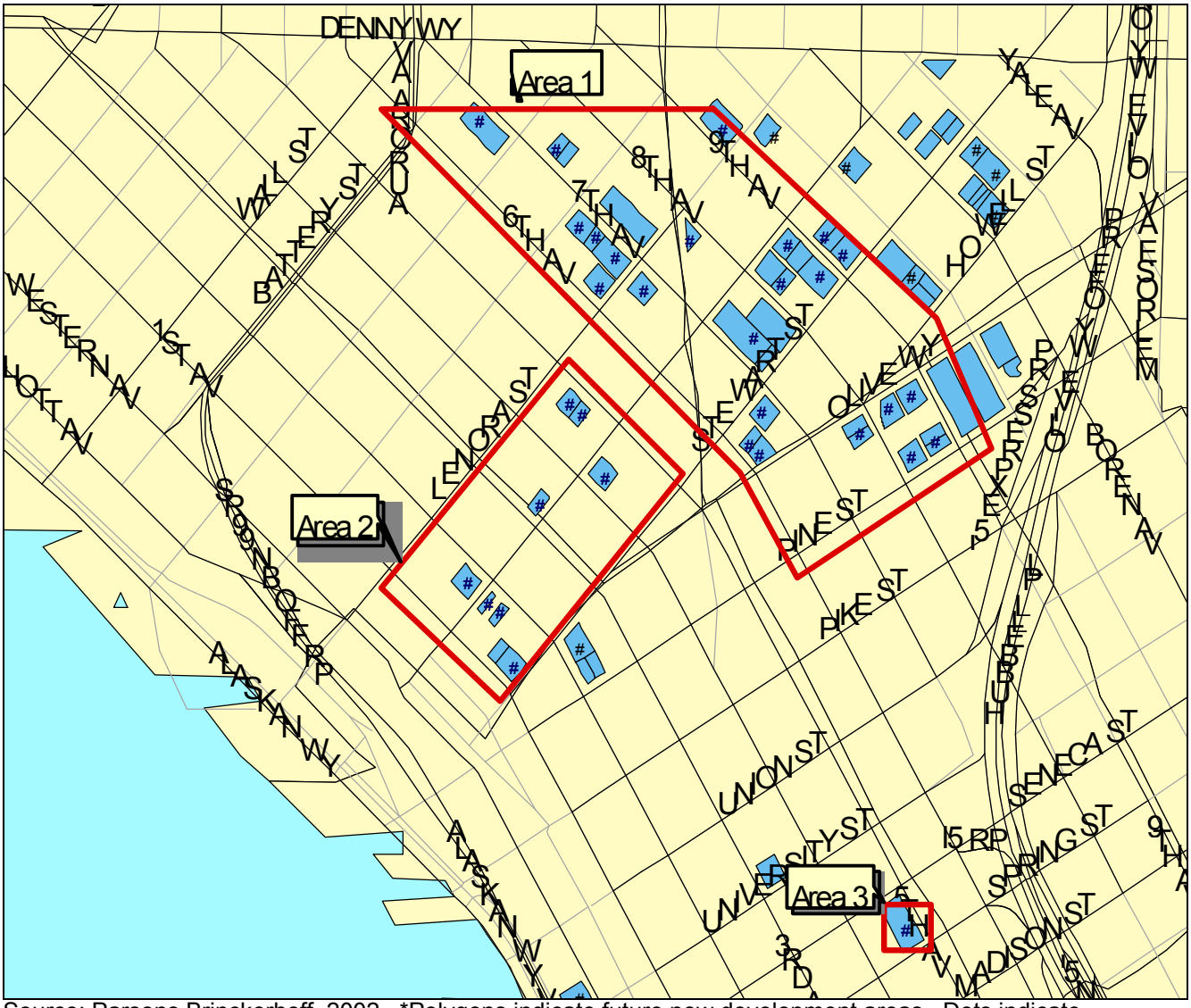
The 2020 estimated parking demand with moderate TDM is for approximately 23,762 spaces, while estimated parking demand with more aggressive TDM is for approximately 19,505 spaces. This suggests that future development could generate more parking demand than the minimum supply provided by approximately 2,500 to 6,750 spaces. However, developers could choose to provide more than the minimum parking, if market conditions warrant. This level of parking demand would nearly the same as under Alternative 4 – the No Action Alternative.

Future development under Alternative 1 would displace approximately 7,137 existing off-street parking spaces by 2020, approximately 400 fewer displaced spaces than under Alternative 4 – the No Action Alternative. Most of the displaced off-street parking would occur in the three areas shown in Figure 48.

ON-STREET PARKING

Alternative 1 would likely generate increased competition for on-street parking in a greater portion of the study area, and increased prices for off-street parking, in a manner similar to Alternative 4. However, with future development spreading across fewer blocks under Alternative 1, displacement of off-street and on-street parking resources would likely be slightly less than under Alternative 4.

Figure 48
Three Areas Most Affected by Displacement of Parking Garages*



Source: Parsons Brinckerhoff, 2002. *Polygons indicate future new development areas. Dots indicate displaced off-street parking lots/garages

Alternative 2 – Concentrated Office Core

OFF-STREET PARKING

Future residential and employment growth throughout the study area would increase overall demand for parking, in a manner similar to Alternative 1 and 4 (refer to Table 61 for details).

ON-STREET PARKING

Alternative 2 would likely generate increased competition for on-street parking in a greater portion of the study area, and increased prices for off-street parking, in a manner similar to Alternative 1.

Alternative 3 – Residential Emphasis

OFF-STREET PARKING

Future residential and employment growth throughout the study area would increase overall demand for parking. Overall impacts on off-street parking would be between those of Alternatives 1 and 4 (refer to Table 61 for details).

ON-STREET PARKING

Alternative 2 would likely generate increased competition for on-street parking in a greater portion of the study area, and increased prices for off-street parking. Overall on-street parking impacts would be between those of Alternatives 1 and 4.

Relationship of Alternatives to Parking Policies

The Comprehensive Plan's parking policies support the provision of adequate parking for economic viability of commercial areas while discouraging single-occupant-vehicle commuting by employees. The policies also seek to make best use of the City's limited street space, a balance among competing uses, and protection of neighborhoods from overflow parking. The Downtown Urban Center Goals and Policies are generally similar in intent, and promote incentives for use of transit, vanpools, carpools and bicycles as alternatives to single-occupant-vehicle commuting.

All of the alternatives, including No Action, are likely to displace several existing off-street parking lots and garages. Some of these are in proximity to the retail core, and a portion of their use is likely attributable to customers of the retail core and immediate vicinity. However, a substantial portion of existing parking demand in these off-street locations is likely due to commuter employees, mostly single-occupant vehicle drivers. The continuing availability of such parking encourages travel choices that foster traffic congestion and are less energy-efficient.

Placing greater restrictions on parking supply is a demand-reduction strategy that would discourage single-occupant-vehicle commuting and help (to some degree) avoid adverse traffic impacts. Given the potential severity of traffic impacts identified in this EIS for all of the alternatives, an aggressive approach to managing parking supply may be warranted.

Due to the projected high traffic volumes and congestion with or without zoning changes, it will likely be necessary over time to increase the efficiency of existing street use, which may mean removing some on-street parking lanes on some streets to optimize their capacities.

MITIGATION STRATEGIES

Proposed Mitigation Strategies

Demand Reduction Strategies (TDM Programs)

See the demand reduction strategies proposed as mitigation in the Transportation section of this EIS. In addition to addressing predicted significant adverse impacts on the road network, transportation demand reduction strategies would aid in reducing parking demand. Furthermore, these strategies could include parking-specific actions, such as "parking cashout" and residential-oriented TDM programs (using options such as FlexCar and bus pass incentives).

Possible Mitigation Strategies

The following strategies are other possible mitigation strategies that could be pursued at the decisionmakers' option, to further influence parking in Downtown as growth occurs over the long term.

Influence Parking Demand Through Financial Mechanisms

Over the long-term, the City could explore methods of more aggressively influencing parking demand through direct or indirect financial mechanisms. Methods could include parking taxes or other user fees. This could influence a greater percentage of single-occupant vehicle commuters to seek alternative transit modes that more efficiently use the transportation network.

Lower Minimum and Maximum Parking Requirements

Minimum and maximum parking requirements in the Land Use Code could be reduced for specific zones to discourage single-occupant-vehicle commuting by employees. Such changes should be targeted to the supply of long-term employee-oriented parking rather than short-term customer-oriented parking.

Area-Specific Changes in Parking Requirements

Reductions or waivers in parking requirements could be targeted to specific locations (such as portions of the Denny Triangle) to help reduce parking supplies with future development. This would aid in encouraging use of transit and other non-single-occupant-vehicle travel modes and thereby discourage growth in traffic congestion.

Reduce Parking Demand and Trip Generation Through Area-Specific Rezones

The probable amount of traffic generation and parking demand could be influenced through rezones of certain areas. For example, future development of residential uses might generate fewer overall vehicle trips than office development on the same properties. Specific zoning could be targeted to certain locations where high traffic volumes might otherwise generate significant adverse impacts on traffic operations.

SIGNIFICANT UNAVOIDABLE ADVERSE IMPACTS

Additional development over the long term would contribute to increased commuter vehicle trips to and from the Downtown study area, and increased parking demand.